

CLAIMS

1. A multifunction-type vibration actuator, wherein a housing(1) accommodates a magnetic circuit part(2), a suspension(3) for elastically supporting said magnetic circuit part(2) in said housing(1), a diaphragm(4) facing said magnetic circuit part(2), and a voice coil(5) provided to said diaphragm(4) and inserted into a magnetic gap(2a) of said magnetic circuit part(2), an input of a signal with a vibration frequency to said voice coil(5) allows vibration of said suspension(3) securing said magnetic circuit part(2) to be transmitted outward through said housing(1), and a plurality of secured positions(3e) for said magnetic circuit part(2) and said suspension(3) are prepared so as to be close to each other, and a distance between said securing planned position(3e) and a central vibration position of said suspension(3) and said housing(1) is changed by selecting a securing planned position(3e) suitable for a characteristic of said suspension(3) to be mounted and suitable also for a weight of said magnetic circuit part(2) from said secured positions(3e) and securing using said securing planned position(3e).
2. A multifunction-type vibration actuator according to Claim 1, wherein said secured positions(3e) are through-holes for laser welding opened in a suspension(3), and laser welding is performed by changing laser radiation positions toward said through-holes(3e).
3. A mobile terminal device incorporating a multifunction-type vibration actuator(A) according to Claim 1 or 2, wherein a call-out signal initiates vibration of said diaphragm(3) and one or both mechanical vibration systems including a magnetic circuit part(2) and a suspension(5) in order to transmit vibration of said mechanical vibration systems throughout a device through a housing and reset of said call-out signal stops vibration of said diaphragm(4) and said mechanical vibration systems.